

## AMENDMENT TO THE CLAIMS

Please amend claim 1 to read as follows:

1. (Currently Amended) A fixed wireless metropolitan area network (MAN) operating in a frequency range of less than 10 GHz comprising:

a plurality of base stations, each base station providing orthogonal frequency division multiplexed (OFDM) wireless data communications on a set of channels defined in the frequency range for a coverage area unique to that base station and having a coverage range with a radius of more than 1 mile and less than 10 miles; and

a plurality of consumer premise equipment (CPE) assigned to each base station and located at a premise within the corresponding coverage area of that base station, each CPE being comprises:

a transceiver configured for communication, with that base station to which it is assigned, the CPE transceiver being capable of two-way radio communication with the assigned base station over the coverage range; and

having an antenna deployed internally within the premise where the CPE is located coupled to the CPE transceiver, the antenna permitting two-way radio communication.

2. (Previously Presented) The fixed wireless MAN of claim 1 wherein the base stations and the CPEs utilize a signal modulation scheme that requires less than 10 dB of signal-to-noise ratio (SNR) protection to achieve a  $10^{-6}$  bit error rate.

3. (Original) The fixed wireless MAN of claim 2 wherein the signal modulation scheme is a quadrature phase shift key (QPSK) modulation.

4. (Original) The fixed wireless MAN of claim 1 wherein the set of channels for a first base station are reused by a second base station having a coverage area adjacent to a coverage area of the first base station.

5. (Original) The fixed wireless MAN of claim 1 wherein the base stations and the CPEs utilize an ALOHA medium access scheme to mediate among multiple requests for data communications on the set of channels.

6. (Original) The fixed wireless MAN of claim 1 wherein each base station includes less than 10 sector-oriented antennas, each sector-oriented antenna providing wireless data communications to a predetermined sector of the coverage area of that base station, and wherein each sector-oriented antenna utilizes a different one of the set of channels.

7. (Previously Presented) The fixed wireless MAN of claim 1, wherein an efficiency ratio of the wireless data communications is at least 0.75.

8. (Previously Presented) The fixed wireless MAN of claim 1 wherein the base station is configured to provide a signal to noise ratio at least 5 dB.

9. (Previously Presented) A fixed wireless access system, comprising:

an outdoor base station unit, wherein said base station unit includes a network interface connectable to a network, a first radio frequency interface configured to enable radio frequency transmission and reception, the radio frequency transmission have a range between 1-10 miles, and a first switch, wherein said first switch is capable of switching an information packet from said network to said base station unit and from said base station unit to said first radio frequency interface for transmission of said information packet by said base station unit via radio frequency and capable of switching an information packet received at said first radio frequency interface to said base station unit and from said base station unit to said network; and

an indoor customer premise equipment (CPE) unit, wherein said CPE unit includes a host interface connectable to a host, a second radio frequency interface, including an indoor antenna, configured to enable non-line-of-sight radio frequency

transmission to said base station unit and non-line-of-sight radio frequency reception from said base station unit, the radio frequency transmission having a range between 1-10 miles, and a second switch, wherein said second switch is capable of switching an information packet from said host to said CPE unit and from said CPE unit to said radio frequency interface for transmission of said information packet by said CPE unit via radio frequency and capable of switching an information packet received at said radio frequency interface to said CPE unit and from said CPE unit to said host, wherein said first and second radio frequency interfaces utilize orthogonal frequency division multiplexing (OFDM) to transmit and receive said information packet.

10. (Original) The system of claim 9, wherein said host is selected from a group consisting of: a single host computer and a network of a plurality of host computers.

11. (Previously Presented) The system of claim 9, wherein said first radio frequency interface operates in the 2.5 - 2.686 GHz range.

12. (Original) The system of claim 9, wherein said network interface and said host interface comprise an Ethernet interface.

13. (Original) The system of claim 9, further comprising a plurality of base station units, wherein said base station units are arranged according to a cellular structure and wherein each of said base station units emit a signal and wherein said CPE unit is registerable with at least one of said plurality of base station units via radio frequency communication and wherein said CPE unit determines which one of said plurality of base station units it will register with based on the signal quality of said signal from said plurality of base station units.

14. (Original) The system of claim 13, wherein upon said CPE unit registering with one of said plurality of base station units and upon said base station unit with which said CPE unit has registered losing signal quality, said CPE unit searches for

a new one of said plurality of base station units based on signal quality and registers therewith.

15. (Original) The system of claim 14, wherein upon said CPE unit registering with said new one of said plurality of base stations said CPE unit passes the addresses of a host connected to said CPE unit to said one base station unit.

16. (Original) The system of claim 14, wherein upon registration of said CPE unit with a new one of said plurality of base station units, said new one of said plurality of base station units causes updating of said base station unit to which said CPE unit was previously registered whereby the previous base station unit becomes aware of said new registration of said CPE unit.

17-59. (Canceled)

60. (Previously Presented) A fixed wireless system, comprising a plurality of computer premise equipment (CPE) units; and a plurality of base station units, wherein each of said plurality of CPE units communicate with at least one of said plurality of base station units via radio frequency, and wherein said plurality of CPE units and said plurality of base station units are arranged in a sectorized configuration, wherein each of the plurality of base station units is configured to communicate with at least 250 CPE units in each sector and wherein each sector has a radius of less than 10 miles.

61. (Original) The system of claim 60, wherein said sectorized configuration is maintained in a cellular configuration.

62. (Original) The system of claim 61, wherein said cellular configuration incorporates six sectors per cell.

63. (Original) The system of claim 63, wherein said cellular configuration has a 1:1 reuse pattern.

64. (Previously Presented) A fixed wireless metropolitan area network (MAN) operating in a frequency range of less than 10 GHz comprising:

a plurality of base stations, each base station having a transmitter to transmit orthogonal frequency division multiplexed (OFDM) wireless data communications on a set of channels defined in the frequency range having a communication range with a radius of more than 1 mile and less than 10 miles and a receiver to receive communications from locations remote from the base stations; and

a plurality of consumer premise equipment (CPE) assigned to each base station and located at a premise within the corresponding coverage area of that base station, each CPE having a receiver to receive communications from the assigned base station, a transmitter to transmit data to the assigned base station, and an antenna deployed internally within the premise where the CPE is located.

65. (Previously Presented) A fixed wireless metropolitan area network (MAN) operating in a frequency range of less than 10 GHz comprising:

a plurality of base stations, each base station providing orthogonal frequency division multiplexed (OFDM) wireless data communications on a set of channels defined in the frequency range for a coverage area unique to that base station and having a radius of more than 1 mile and less than 10 miles; and

a plurality of consumer premise equipment (CPE) assigned to each base station and located at a premise within the corresponding coverage area of that base station, each CPE having an antenna deployed internally within the premise where the CPE is located, wherein a modulation scheme is selected to achieve a desired bit error rate and wherein a required signal to noise ratio increases as a level of modulation increases.